

BOSSIAEA ARENICOLA (FABACEAE), A NEW SPECIES FROM NORTHERN QUEENSLAND

by

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ABSTRACT

Ross, J. H. *Bossiaea arenicola* (Fabaceae), a new species from northern Queensland. *Muelleria* 7(3): 371-374 (1991). — *B. arenicola* from the Cook District of northern Queensland is described as new.

INTRODUCTION

Material of this species was first collected almost twenty years ago but it is only relatively recently through the efforts of Mr J.R. Clarkson, Queensland Herbarium, that good flowering and fruiting collections have been made. This opportunity is taken of describing the species.

BOSSIAEA ARENICOLA

Bossiaea arenicola J. H. Ross *sp. nov.* affinitas incerta, forsan *B. brownii* Benth. affinis, a qua foliis majoribus orbicularibus rhombis ad late obovatis ad basin non manifeste obliquis vel cordatis, stipulis triangularibus vel ovatis, calyce et bracteolis conspicue longitudinaliter striatis, bracteolis majoribus, corolla uniformiter luteola vel interdum vexillo fauce aurantiaco, et ovariiis glabriis, differt.

TYPUS: Queensland, Cook District, 4.3 km E of the Hopevale-Starke road on the track to the McIvor River mouth, 14.vi.1984, *J.R. Clarkson 5322* (HOLOTYPUS: MEL; ISOTYPI: BRI, CANB, DNA, K, NSW, PERTH, QRS).

Shrub or tree 2-5 m high with several stems arising from ground level; bark greyish-brown, longitudinally fissured, fibrous; branchlets terete, sparingly to densely clothed with somewhat spreading silvery hairs. *Leaves* alternate, distichous, unifoliolate, reddish when young, on short densely pubescent petioles 1.5-3 mm long; leaflets orbicular, rhombic and sometimes transversely so, to broadly ovate or obovate, (0.6-)-0.9-1.8 cm long, (0.5-)-0.8-1.9 cm wide, coriaceous, upper surface sparingly to densely pubescent when young but glabrescent, glabrous when mature or with few scattered hairs, midrib and main lateral veins quite prominent, lower surface sparingly to densely pubescent and especially so near the attachment of the petiole, glabrescent, glabrous or with scattered hairs especially basally when mature. *Stipules* triangular or ovate, scarious, sparingly to densely pubescent, 0.7-1.5 mm long, 0.6-1.1 mm wide. *Flowers* borne irregularly on the upper parts of the branchlets, solitary in the axils of the leaves, up to 1.5 cm long, yellow or sometimes the standard with a basal orange flare, on sparingly to densely pubescent pedicels 1.8-4 mm long. *Bracts* few in the series, crowded in the axil, obtuse, up to 1 mm long. *Bracteoles* unevenly paired and inserted on the pedicel at different heights, one inserted near the base of the pedicel and the other near the apex, scarious, longitudinally striate, the upper 1.3-3 mm long, 1.5-1.8 mm wide, glabrous apart from marginal cilia, persisting to the fruiting stage. *Calyx* glabrous externally or with a fringe of hairs on the margins, conspicuously longitudinally striate; 2 upper lobes broader than the others and united higher up, the apices of the lobes diverging, 5-6 mm long including the tube 4-4.6 mm long, 3 lower lobes 2-2.5 mm long, shorter than the tube, denticulate. *Standard* spatulate, 14.5-15 mm long including a claw up to

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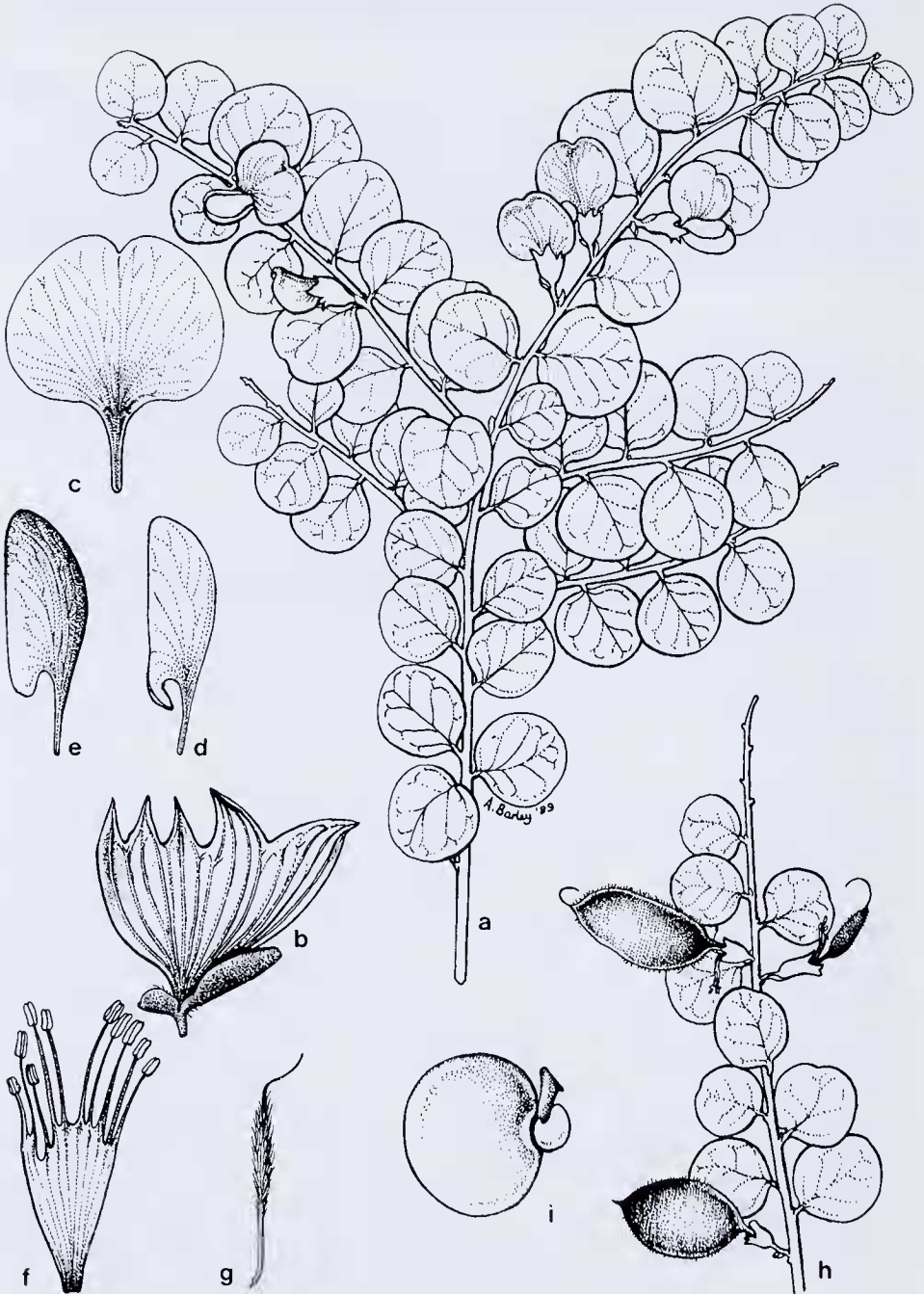


Fig. 1. *Bossiaea arenicola*. a — flowering twig, $\times 1$. b — calyx opened out (upper lobes on right), $\times 4$. c — standard, $\times 3$. d — wing petal, $\times 3$. e — keel petal, $\times 3$. f — staminal tube opened out, $\times 3$. g — gynoeceium, $\times 3$. h — fruiting twig, $\times 1$. i — seed, side view, $\times 5$. a-h from J.R. Clarkson 5322, i from J.R. Clarkson 5476.

5.5 mm long, 10.5–13 mm wide, claw with two calli near the apex; wing petals 11–13 mm long including a claw 3–3.8 mm long, 3–3.4 mm wide; keel petals shorter than or longer than the wings, 12.8–13.6 mm long including a claw up to 3.8 mm long, 4.3–4.9 mm wide. *Stamen-filaments* 9.6–14.5 mm long. *Ovary* 4–4.5 mm long, densely clothed with silvery antrorse hairs, 2–4-ovulate, on a stipe 3–5.2 mm long, the stipe glabrous basally but densely pubescent above; style 6–6.5 mm long. *Pods* oblong or oblong-elliptic, on a stipe which exceeds the calyx, 1.6–2.2 cm long, 0.9–1.3 cm wide, transversely venose, glabrous or with scattered hairs on the margins and surface, coriaceous, margins thickened, dehiscent. *Seeds* transversely ellipsoid, 3.4–3.5 mm long, 4.4–4.5 mm wide, uniformly yellowish-brown but only immature seeds seen, with a hooded cap-like aril. (Fig. 1)

B. arenicola has a fairly wide but disjunct distribution on the eastern side of the Cape York Peninsula between latitudes 11°12'S and 15°20'S. It is recorded from Logan Jack Creek in the north southwards to Shelburne Bay, Olive River, Cape Flattery, Cape Bedford and the vicinity of Hopevale (NW of Cooktown). The species is recorded growing on wind blown sands, on dunes and on river banks in wooded or closed heath, in dense shrubby communities overtopped by scattered trees or shrubs and in rainforest.

REPRESENTATIVE SPECIMENS (10 specimens examined):

Queensland — Cook District, near Logan Jack Creek, 2.viii.1987, *H. Gitay* 108 (BRI); coast S of Thorpe Point, Shelburne Holdings, 27.xi.1985, *A. Gunness* 1964 (BRI); Olive River, 14. ix.1974, *L.J. Webb & J.G. Tracey* 13610 (BRI); 11.9 km W of the Hopevale to Starke road on the track to the McIvor River mouth, 14.viii.1984, *J.R. Clarkson* 5476 (BRI, MEL, QRS).

NOTES:

The affinities of *B. arenicola* are not entirely clear. The species is perhaps allied to *B. brownii* Benth. but differs in having larger orbicular, rhombic (and sometimes transversely so) to broadly ovate or obovate leaflets which are not obviously oblique or cordate basally, triangular or ovate stipules, conspicuously longitudinally striate calyces and bracteoles, a uniformly yellow corolla or the standard sometimes with an orange basal flare, and glabrous ovaries.

B. arenicola cannot be accommodated in any of the Series recognized by Bentham (1864). On account of the densely pubescent ovaries the species fits into Bentham's *Eriocarpaceae* but, at the same time, the lack of hairy pods and the nature of the upper calyx lobes exclude it from the Series. The densely pubescent ovaries exclude the species from the Series Normales.

B. arenicola has 2–4 ovules, a feature shared with *B. foliosa* Cunn. and *B. oligosperma* A. Lee. Each of the two latter species has much smaller and differently shaped leaves. Although the ovary in *B. foliosa* is densely pubescent, the hairs are ferruginous, whereas the ovary in *B. oligosperma* is glabrous. The ecological preferences and distributional ranges of *B. foliosa* and *B. oligosperma* are quite different to those of *B. arenicola* and the species are unlikely to be confused.

B. arenicola is distinguished at once from *B. rupicola* and *B. carinalis* in that the keel petals are shorter than the standard.

B. arenicola favours sandy situations, whence the specific epithet.

ACKNOWLEDGEMENTS

I am most grateful to John Clarkson, Queensland Herbarium, for making special collections of this species; to my colleague Anita Barley for executing the illustration which accompanies this paper; to Alex George, Executive Editor of the Flora of Australia, for checking the Latin diagnosis; and to the Director and Curator of BRI and QRS respectively for the loan of specimens.

REFERENCE

Bentham, G. (1864) 'Flora Australiensis'. 2: 154–168. (Lovell Reeve & Co.: London.)

Manuscript received 5 February 1990; revised 7 May 1990.